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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/659,256

09/11/2003

Dong-Woo Ha

1349.1300

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10/03/2005

STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

CULLER, JILL E

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/659,256	HA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jill E. Culler	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 7-15, 19, 20, 22 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 16-18, 21 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG PUB 2001/0024228 to Klinefelter et al. in view of U.S. Patent No. 4,119,032 to Hollis and U.S. Patent No. 3,942,314 to Olowinski.

With respect to claims 1 and 16, Klinefelter et al. teaches a feeding roller shaft supporter for an inkjet printer having a feeding roller shaft, comprising: a main chassis which forms a frame of an ink-jet printer; a first supporting unit in the main chassis supporting opposite ends of the feeding roller shaft; a driving member provided at a first end of the feeding roller shaft;

Klinefelter et al. does not teach an axial position correction unit mounted on the feeding roller shaft close to the driving member, correcting an axial position of the feeding roller shaft; or a second supporting unit supporting the feeding roller shaft, wherein the second supporting unit is provided on a second end of the feeding roller shaft.

Hollis teaches an axial position correction unit, 30, mounted on the shaft, 5, of a roller, 1, correcting an axial position of the shaft. See column 3, lines 19-40 and Fig. 5.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the axial position correction unit of Hollis with the feeding roller shaft of Klinefelter et al. in order to have more control over the axial positioning of the shaft.

Olowinski teaches a shaft having a second supporting unit provided on a second end supporting the shaft in an axial direction. See column 2, line 55 – column 3, line 22 and Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the second supporting unit of Olowinski with the shaft supporter of Klinefelter to reduce the vibration in the shaft when the roller is operated.

With respect to claim 2, Klinefelter teaches the first supporting unit comprises first and second bushings, the first and second bushings respectively located at opposite ends of the feeding roller shaft. See page 3, paragraph 34.

With respect to claims 3, 4 and 17, although Klinefelter et al. does not explicitly discuss a predetermined interval between the driving member and the first supporting unit at the first end of the feeding roller shaft, it is noted that an apparatus will always have a predetermined interval between any two given elements so it would be inherent for this to be the case between the elements of Klinefelter et al. in this invention.

With respect to claims 5, 6 and 18, Klinefelter et al. does not teach that the second supporting unit comprises an anchoring ring and a washer centered about the feeding roller shaft, or that it is provided to be in face-contact with a surface of the first supporting unit facing the first end of the feeding roller shaft.

Art Unit: 2854

Olowinski teaches a shaft supporting unit comprising an anchoring ring, 32, and a washer, 38, centered about the feeding roller shaft, or that it is provided to be in face-contact with a surface of the first supporting unit facing the first end of the feeding roller shaft. See column 2, line 55 – column 3, line 22 and Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the second supporting unit of Olowinski with the shaft supporter of Klinefelter to efficiently reduce the vibration in the shaft when the roller is operated.

3. Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klinefelter et al. in view of Olowinski.

With respect to claim 21, Klinefelter et al. teaches a feeding roller shaft supporter for an ink-jet printer having a feeding roller shaft, 74, comprising: a first supporting unit, 75, supporting opposite ends of the feeding roller shaft, 74, in a radial direction; a driving member provided at a first end of the feeding roller shaft. See page 3, paragraphs 33-34.

Klinefelter does not teach a second supporting unit provided on a second end of the feeding roller shaft, supporting the feeding roller shaft in an axial direction.

Olowinski teaches a shaft having a second supporting unit provided on a second end supporting the shaft in an axial direction. See column 2, line 55 – column 3, line 22 and Fig. 2.

Art Unit: 2854

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the second supporting unit of Olowinski with the shaft supporter of Klinefelter to reduce the vibration in the shaft when the roller is operated.

With respect to claim 23, although Klinefelter et al. does not explicitly discuss a predetermined interval between the driving member and the first supporting unit at the first end of the feeding roller shaft, it is noted that an apparatus will always have a predetermined interval between any two given elements so it would be inherent for this to be the case between the elements of Klinefelter et al. in this invention.

### ***Response to Arguments***

4. Applicant's arguments, filed July 25, 2005, with respect to the rejection(s) of claim(s) 1-6 and 16-18 under Klinefelter et al. in view of Witczak have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hollis.

Applicant's arguments, filed July 25, 2005, with respect to the rejection under Klinefelter et al. in view of Olowinski have been considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

Art Unit: 2854

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one having ordinary skill in the art would recognize the advantages of the teachings of Olowinski in reducing vibrations and would be readily able to modify the structure of Klinefelter et al. to include these teachings in order to reduce the vibrations of the Klinefelter et al. invention.

### ***Conclusion***

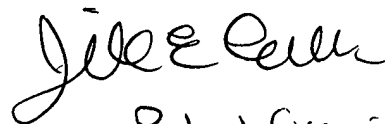
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (571) 272-2159. The examiner can normally be reached on M-Th 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2854

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jec

  
Patent Examiner